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Environmental Progress Under China's New Leadership

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Environmental Progress Under China's New Leadership

by

Arielle Dumornay

A master's thesis submitted to the Graduate Faculty in Liberal Studies in partial fulfillment of
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Abstract

Environmental Progress Under China's New Leadership

By

Arielle Dumornay

Advisor: Professor Mark Ungar

Environmental issues have been a consistent problem that many countries have had to adhere to. There have been many demands on global resources, it was not until the end of the 1960s did the ideals and visions about environmental protection begin to come to fruition. The UN in 1972 convened the United Nations Conference on the Human Environment in Stockholm which was considered to be a very pivotal moment in taking environmental problems more seriously. Declaring 19 principles that represent an environmental doctrine, this conference laid the groundwork for the new environmental agenda of the United Nations. The General Assembly in December of 1972 established the United Nations Environment Program, which led the efforts of the United Nations on behalf of the global environment. After the implementation of this program several countries have taken environmental issues more seriously in recent years but countries like China had several problems with trying to find a balance between environmental protection and economic growth. During the Mao Zedong era China abused the environment greatly to achieve economic and social gains. Due to the political leaders in power China was solely focused on its advancement in the global sphere. In recent years because of the shift in the political leaders in China environmental protection has become a more prevalent factor in Chinese politics and this can be seen through the various non-governmental organizations and policies implemented.

I would like to take this time to thank my advisor, Professor Ungar and my family for their contribution and guidance through this process.

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Introduction

Environmental issues have been a consistent problem to which many countries have had to adhere. There have been many demands on global resources; it was not until the end of the 1960s when the ideals and visions about environmental protection begin to come to fruition. In 1972 the United Nations (hereafter UN) convened on the Human Environment in Stockholm, which was a very pivotal moment in taking environmental problems more seriously. Declaring 19 principles that represent an environmental doctrine, this conference laid the groundwork for the new environmental agenda of the United Nations.¹ This thesis will show the progression of how Chinese political leaders have addressed the country's growing environmental issues. I will be using a historical perspective to depict the shifting views on environmental protection in China. I will first analyze in depth the environmental degradation that China has caused because of economic reforms. Second, it will focus on the change in the nature of reforms; what created the demand for reform; and how those reforms initially were not effective. The third focus is on how Chinese people reacted to growing environmental problems. Lastly, it will analyze how the change in political leadership has prompted a different approach to environmental protection.

In three ways, China's central government operates today in an environment fundamentally different from the one that existed during the Mao Zedong and Deng Xiaoping era. The first is that individual Chinese leaders have become weaker in relation to one another and the rest of society. Second, Chinese society, as well as the economy, has expanded in ways that Chinese leaders must address. Third, China's leadership now needs to adhere to a population that is more knowledgeable about environmental protection. In recent years China's leaders

¹ Janice, Martin; Jorgens, Helge. 2006. "New Approaches to Environmental Governance", *New Approaches to Environmental Governance*

have had to react to public opinion and opposition to rising environmental problems.

On July 9th, 2013 in Beijing, China's environmental minister said his ministry ranked among the world's "four major embarrassing department" but he also defended the department by stating that "it was hampered by overlapping functions in government and state media." Public anger over smog that blanketed many northern cities in January has spread to online appeals for Beijing to clean up water supplies, especially after the rotting corpses of thousands of pigs were found in March in a river that supplies Shanghai's water. Social unrest spurred by environmental complaints is becoming common across the country, to the government's alarm.²

The General Assembly in December of 1972 established the United Nations Environment Program (UNEP), which began UN efforts on behalf of the global environment. Since formation of this program, most countries have taken environmental issues more seriously. But countries like China struggle to find a balance between environmental protection and economic growth. During the Mao Zedong era (1943-1958) China abused the environment greatly to achieve economic and social gains. Due to the changes in political leadership (after Mao Zedong era) in China there has been more of a focus on environmental protection. This focus only came after years of degradation during Imperial China.

Imperial China

For over two thousand years, China had been ruled by a monarchical form of government, the 1911 revolution led to the end of imperial China in 1912. After the multiply attempts of the Qing dynasty for reform and the failure of the Boxer Uprising many Chinese thought that the solution was an outright revolution. The revolutionary leader, Sun Yat-sen, was a republican activist. This movement was centered on three main concepts, nationalism,

² Shengxian, Zhou. 2013. "China's Environment Minister Calls Department Embarrassing", *The Huffington Post*

democracy, and socialism. Nationalism had to do with the overthrowing of the Manchus; democracy included having a republican government and socialism in terms of people being able to own land and have more rights in their social and economic lives. The republican revolution started in October of 1911 in Wuchang. This revolution was very monumental in terms of what it represented but this revolution did not unify China and did not make China better economically and socially. The revolution also led to decreased support for Confucianism and increased Westernization and modernization. The creation of a Western style republic sped up and extended Westernization and modernization in all areas of Chinese city, life, and culture.

The new government was weak and was not able to establish a power that was able to control all of China. Places such as Outer Mongolia and Tibet that had belonged to China declared independence from China after 1911. Several years after the revolution there was a rise of warlordism. During this period politicians sometimes bargained against the central government. The country became separated by warlordism and the lacking of a strong state. Due to the constant state of war in China caused the environment to suffer tremendously.

Yuan Shikai replaced Sun Yatsen as president, Yuan Shikai in 1913 ordered Sun Yat-sen's arrest. To survive, Sun fled to Japan as a political refugee. He wouldn't return to China until a few months after Yuan Shikai's death. Yuan Shaikai was unable to establish control beyond Nanking so he declared himself emperor. His attempt to replace the republic with a monarchy and him as emperor created other revolts in southwestern China followed by uprisings of Sun Yat-sen's followers in several other provinces. This resulted in twelve years of warfare between the warlord generals of China's provinces and the weak Republic of China. Yuan Shikai died in 1916, and then Sun Yat-sen returned to lead the republic. The 1911 Revolution allowed for a new era in China, it did not achieve all that it was set out to achieve due to its infancy and

but this revolution opened the doors for further ones.

The 1911 Revolution brought political and social change to China, but the end of imperial China was only the beginning of the rebuilding of the Chinese government. After the 1911 Revolution there was an increase of modernization and social movements. During the 1920s Beijing was the site of social movements, such as feminism, mass nationalism, and unionism, which gave new political meaning to public spaces.³ After the revolution China began to improve technologically and politically. Through nationalism many movements and an intense desire to push China forward was prevalent. Sun Yatsen formed the three principles of revolution; these principles became the foundation of the Nationalist Party. These principles were nationalism, democracy, and livelihood. The first principle being nationalism, he believed that he had to oppose foreign imperialism and create a sense of China as an equal among outside nations through the unison of the country. These principles are what helped propel China into more of a modern state.

After the rule of Sun Yatsen, China began to expand momentarily in various ways that caused environmental protection to be ignored. China's environmental progression can be seen through the transition of four political leaders: Mao Zedong, Deng Xiaoping, Hu Jintao, and Xi Jinping. In the past the political leaders in China have forgone environmental progression for economic gains. China's approach to environmental protection was primarily based on the country's economic reform strategy, maintain small central bureaucracies, devolve authority to the local officials, and engage the international community and support private initiative.⁴ Very few cities that have higher per capita GDP and strong ties to the international community have

³ Strand, David. 2011. *An Unfinished Republic: Leading by Word and Deed in Modern China*, University of California Press

⁴ Economy, Elizabeth. 2004. "Congressional Testimony: China's Environmental Challenge" *Council on Foreign Relations*

begun making changes for the betterment of the environment while the rest of the country falls behind. China's system of environmental protection has often been characterized by weak enforcement of environmental policy. The Three Gorge Dams is a prime example of this.

The concept of The Three Gorges Dams is over 75 years old, dating back to when it was first introduced by the Nationalist leader Sun Yatsen in 1919. In 1992, Chinese leaders announced plans to control the river's power by constructing the largest hydroelectric dam. This construction plan had a great deal of opposition. The project posed several risks including environmental ones. When construction of the dam began the Chinese government was under pressure from environmental non-governmental organizations. The Chinese government argued that the dams would benefit more than not. The dam would generate several megawatts of electricity and it would decrease the potential of flooding from the Yangzi River. During the development of the project; environmentalists stated that due to the magnitude of the project many lakes had become a repository for waste dumped by cities and industries. "The huge dam is meeting the government's goal of producing pollution-free electric power, the government said, generating 84 billion kilowatt-hours of electricity last year."⁵ The dam's ability to regulate the flow of the 3,900 mile long Yangtze River had been called into question.

Previously China's basic environmental law contained three key principles. "The first, coordination of environmental protection and economic development. National environmental protection plans must be integrated into national economic development plans in addition the state should adopt economic and technical measures that are environmentally beneficial."⁶ The second, polluters should pay discharge fees on waste releasers that exceed discharge standards. The third is strengthening environmental management by reducing pollution by investing in new

⁵ Wines, Michael.2011. "China Admits Problems With Three Gorges Dam", *The New York Times*

⁶ Gang, Chen.2009. *Politics of China's Environmental Protection: Problems and Progress*, Wspc

waste treatment facilitates is expensive.⁷ These three principals have one common factor they all revolve around the economy and how it can benefit the Chinese government.

Globalization

In the past, China's environmental problems have stemmed from economic growth and globalization. Globalization is seen as the economic development through allocation of capital, technology and information through the global context. Globalization has had both positive and negative effects on China's environment. The effect of globalization has often been seen as a double edged sword that brings China both opportunities and challenges. Globalization creates the increase of trade which generates more economic growth but may also lead to an increase in pollution and an increase in consumption of natural resources. Globalization has increased in China due to reduced barriers to trade and foreign direct investment (FDI). "Increasing globalization causes concerns about environmental impacts because the current regulatory framework for environmental protection does not work effectively in the presence of globalization."⁸ China's framework had and still is experiencing difficulty working in unity with globalization. Countries like China with low levels of environmental regulations have become production platforms for pollution-intensive industries, or so called pollution havens.⁹

The increase of globalization has helped grow the interdependence among economies and societies. The cross country flow of information, technology, and capital has increased tremendously. "It can exacerbate environmental problems as well as provide new means for addressing them".¹⁰ Countries such as China have often considered the environment not to be as

⁷ Gang, Chen.2009.

⁸ Christmann, Petra, Glen Taylor.2001. "Globalization and the Environment: Determinants of Firm Self-Regulation in China", *Journal of International Business Studies*

⁹ Christmann, Petra, Glen Taylor.2001.....

¹⁰ Anderson, Sarah; John Cavanagh, and Thea Lee. 1999. "Ten Myths About Globalization", *American Economic Review* 91(4):877-908

important as other areas and because of this countries have suffered greatly. Environmental problems have affected five aspects of Chinese culture. There has been a large impact on women, water, land, population and health. Lack of enforcement has also been a great problem that China has faced and is currently still facing. Globalization is viewed as a step toward a fully integrated world market and as a key ingredient of a global society. Globalization is also seen by some academics as a borderless society.¹¹ “Globalization has sometimes been described as a large scale openness of borders accomplished by loosening state regulations to promote rapid financial transactions, trade, communications and other social and cultural activities.”¹² Globalization imposes tremendous constraints on economic growth and contributes to strengthening economic dependence on international demand. It increases vulnerability to the fluctuations of international markets. Major pollutants threats to the environment in the age of globalization come from economic activities, such as agriculture, mining, manufacturing, and transportation.¹³

The impact of globalization can be seen through Peter Hessler, a traveling writer, book *Country Driving* explores China’s newly highway system and how the Chinese are getting accustomed to it. He chronicles the modern changes from rural China to new cities and newly built factories. The mode of transportation had changed as well, from streetcars to passenger cars such as jetas. Hessler describes how the Chinese began getting accustomed to driving cars on the highways, “The Chinese rarely used turn signals or windshield wipers or seat belts or headlights. They tailgate and honk like mad. People pass on hills, they pass on turns, and they pass in tunnels.”¹⁴ The Chinese were not the best or safest drivers but an important factor is that more

¹¹ Thai, Khi; Dianne Rahm; Jerrell D. Coggburn.2012. *Handbook of Globalization and the Environment*, CRC Press

¹² Thai, Khi; Dianne Rahm.....

¹³ Thai, Khi; Dianne Rahm.....

¹⁴ Hessler, Peter.2011.*Country Driving: A Chinese Road Trip*, Harper Perennial

people were driving cars, which advocated for the change happening in China. This was a preview of how modern China's modernization really began to propel forward during China's economic reforms.

Economic Reforms

There were two stages of the economic reforms in China, the first stage being the decollectivization of agriculture, the opening up of the country to foreign investment and the moving from the countryside to cities. The second stage, which occurred in the 1980s, involved the privatization of many state own companies. The economic reforms in China started a domino effect; successful social and political reforms began as well. A philosopher Jiwei Ci suggests that China has gone through three stages or states of mind since 1949: utopianism, nihilism, and hedonism. Utopianism is the philosophy what Mao Zedong promoted; he promoted The Great Leap Forward and the Cultural Revolution as being very important in terms of propelling China forward. This utopianism transitioned into nihilism, which is the devaluation of socialist or communist values and replaced with consumerism and the want for individual wealth. Hedonism counters nihilism and maximizes on pleasure. This is seen in the 1970s and 1980s; many people in China wanted materialistic goods and were more apt for Western goods and appearances. There was also an increase on the amount of people who wanted to capitalize on the changing economic situation in China.

For nearly three decades, industrial relations in China were characterized by what were common in state socialist systems an economy dominated by state-owned enterprises, employee dependence on the enterprise, state-controlled union organizations, and relative labor peace. With the economic reforms launched in 1979, Chinese industrial relations entered a period of change. The pace, scope, and sequence of changes in industrial relations are thus determined not

only by choices by key factors responding to a global economy but also significantly by structural constraints derived from the entrenched danwei (work-unit) system that stood at the core of the pre-reform Chinese industry.

China's increase in industrial relations led to an increase in environmental challenges. Throughout the centuries, exploitation of the environment contributed to the cycles of war, famine and natural disasters that plagued China. Chinese culture, rooted in Confucianism and later reinforced by Marxism-Leninism, hampered the development of modern scientific rationalism. Many philosophers in these beliefs thought that people should be in harmony with nature but use it to their advantage. In the past Chinese leaders regarded a large population as a necessity for a strong state, contributing to greater tax revenues and larger army. Shang Yang, the Statesman that guided development of the Qin state, argued that a large population and a strong army were the greatest assets of a ruler. Liu Yan of the Tang dynasty argued that if there were more people, there would be more tax payments. Confucian humanism was all in favor of the flourishing and propagation of the human species. "The Ming dynasty epitomized the impact of rapid population growth on the environment. During this period, the population expanded from an estimated 66 million in 1403 to approximately 100 million by the final years of the Ming in the mid-1600s."¹⁵ This large increase in population resulted in reports of widespread deforestation, massive land reclamation projects, soil erosion, and flooding as peasants left. This impact on the environment continued into the Mao era.

The Maoist Era

Mao Zedong is a preeminent figure in modern Chinese history. The Mao-led Communist revolution in 1949 laid the foundations of the rapidly developing nation of the early twenty-first

¹⁵ Economy, Elizabeth. 2010. *The River Runs Black: The Environmental Challenge to China's Future*, Cornell University Press

century. In January 1958, Mao Zedong launched the Great Leap Forward, intended as an alternative model for economic growth to the Soviet model focusing on heavy industry that was advocated by others in the party. This was a plan to increase industrial and agricultural production. This economic plan caused several problems; there was a combination of unrealistic production goals which diverted too much attention from agricultural work into other areas. This resulted in a three year drought which affected a great amount of China's agricultural land. The Great Leap Forward ended in catastrophe, resulting in tens of millions of deaths. Estimates of the death toll range from 18 million to 45 million. The years of the Great Leap Forward saw economic regression. Political economist Dwight Perkins argues, enormous amounts of investment produced only modest increases in production or none at all. In short, the Great Leap Forward was a very expensive disaster.

Maoism, a political theory that sees the agrarian peasantry, rather than the working urban class, as the key revolutionary force, aims to fundamentally transform capitalist society towards socialism. In Maoism, deliberate organizing of massive military and economic power is necessary to defend the revolutionary area from outside threat. Through these military forces the Chinese political party fostered an atmosphere in which the mentality was that the environmental resources were endless and disposable. Maoist China thus provides an example of extreme human interference in the natural world in an era in which human relationships were also usually distorted. The period illustrates the relationship between "political repression and environmental degradation, demonstrating the tragedy of the consequences of these extreme conditions."¹⁶ Mao was focused on changing Chinese society by remolding human nature. Several times he ignored economist's warnings of the dangers of overpopulation and exhorting the Chinese people.

Judith Shapiro recalls Mao Zedong's slogans through this attempt at transformation,

"Red experts were in control and the labors of rural armies were put at the service of utopian projects. Huge hydropower projects removed millions from their homes but were useless or caused disastrous floods when poorly constructed dams broke. Maoist ideology

¹⁶ Shapiro, Judith. 2001. *Mao's War Against Nature Politics and the Environment in Revolutionary China*, Cambridge University Press

pitted the people against the natural environment. To conquer nature, the power of ideas was unleashed through mass mobilization in political campaigns. Official discourse was filled with references to a war against nature. Nature was to be conquered. Wheat was to be sown by shock attack. Shock troops reclaimed the grasslands. Victories were won against flood and drought. Insects, rodents, and sparrows were wiped out. This polarizing adversarial language captures the core dynamic of environmental of the era.”¹⁷

Shapiro breaks down the understanding of Mao’s approach to the environment in four segments. The first, political repression, including the repression of intellectuals, scientists, officials, and ordinary people who dissented from the Maoist vision of how humans should treat the natural environment. The second, utopian urgency, initiated by Mao and adopted by local leaders and peasants to remold the landscape quickly and achieve socialism. The third, models that ignored regional geographic variations and local practices toward nature, and the fourth the reconfigurations of society by administrative fiat. The effort to conquer nature was highly concentrated and oppositional, motivated by utopianism to transform the face of the earth and build a socialist paradise, and characterized by coercion, mass mobilization, enormity of scale, and great human suffering. These four models were prime examples of how environmental degradation was prevalent during the Mao era.

This disregard for environmental protection can also be seen in Mao Zedong’s poetry. “In the last stanza of his 1956 poem *Swimming*, Mao imagines a dam spanning the Yangtze River near the present Three Gorges project.

*Sails move with the wind.
Tortoise and Snake are still.
Great plans are afoot:
A bridge will fly to span the north and south,
Turning a deep chasm into a thoroughfare
Walls of stone will stand upstream to the west
To hold back Wushan’s clouds and rain
Till a smooth lake rises in the narrow gorges.
The mountain goddess is she is still there
Will marvel at a world so changed.*

Mao sought to harness nature to lessen its threats and benefit from it. There were posters that

¹⁷ Shapiro, Judith. 2001.....

encouraged children to shoot sparrows but none that called on factories to discharge their waste products into the air or water.”¹⁸ The neglect on the environment began to increase greatly when China began its economic growth under Deng Xiaoping’s leadership.

The Deng Era

China began its economic growth in the 1970s with the change of power from Mao Zedong to Deng Xiaoping. When Deng Xiaoping came to power he began a period of economic modernization. China became one of the most rapidly growing industrial sectors in the world. With this economic growth came population growth as well, with such a massively overwhelming number of people and economic growth the environmental degradation became an increasing problem. Improving relations with the outside world was the second of two important philosophical shifts outlined in Deng's program of reform termed “Gaiige Kaifang” (lit. Reforms and Openness).

China's domestic, social, political, and most notably, economic systems would undergo significant changes during Deng's time as leader. The goals of Deng's reforms were summed up by the Four Modernizations, those of agriculture, industry, science and technology and the military. The strategy for achieving these aims of becoming a modern, industrial nation was the socialist market economy. Deng argued that China was in the primary stage of socialism and that the duty of the party was to perfect so-called "socialism with Chinese characteristics", and "seek truth from facts". (This somewhat resembles the Leninist theoretical justification of the New Economic Policy (NEP) in the 1920s, which argued that the Soviet Union had not gone deeply enough into the capitalist phase and therefore needed limited capitalism in order to fully evolve its means of production)

¹⁸ McElwee, Charles. 2011. *Environmental Law in China: Mitigating Risk and Ensuring Compliance*, Oxford University Press

In the pre-reform era, China's imported and exported goods were handled primarily through the system of material balances that was used to construct the basic economic plan. "The Chinese government co-coordinated the flow of raw materials and intermediate goods among major state enterprises and ensured that the production of each good was sufficient to meet both inter-industry demands for consumption."¹⁹ By the 1950s foreign trade a monopoly of the central government, only a handful of foreign trade corporations were responsible for implementing the plan. The main reason for this arrangement in the Chinese government was a lack of competition since each of the foreign trade corporations was responsible for carrying out trade in specified, non-overlapping product area. After the economic reforms the way in which in the Chinese government handled importing and exporting good changed. The original trade reforms soon changed, this is shown by two changes. "The growing number of foreign trade cooperation and the declining scope of the foreign trade plan. The State Council, in a major foreign trade reform document promulgated in September 1984, called for an end to the monopoly power of the national foreign trade companies."²⁰ The end of monopoly power helped propel the Chinese economy into that was open to more international trade.

¹⁹ Lardy, Nicholas. 1996. *The Chinese Economy Under Deng Xiaoping (Studies on Contemporary China)*, Oxford University Press

²⁰ Lardy, Nicholas. 1996. *The Chinese Economy Under Deng Xiaoping (Studies on Contemporary China)*, Oxford University Press

Chapter I

Environmental Impacts

The rapid industrial progression in China has caused many negative effects on several aspects of China's society. "China has gone through an industrialization in the past twenty years that many developing countries needed one hundred years to complete," said Pan Yue, vice minister of China's Ministry of Environmental Protection (MEP) in a 2007 report.²¹ Elizabeth C. Economy, an expert on China's environment, says China is experiencing the same growing pains as any other industrialized nation. The "scale and scope of pollution far outpaces what occurred in the United States and Europe" during their industrial revolutions.²² Moreover, China's environmental woes have hurt its economy. The damage to the ecosystem costs China about 9 percent of its GDP, according to the United Nations Development Program.

This lack of environmental protection has significantly affected the health of the Chinese people. Chinese people are subjected to air pollution causing respiratory problems which affect those in the urban and rural areas. Women are affected mostly by indoor pollution, which primarily by cooking with coal, leads to serious health risks. Almost 100 million Chinese people have had no electricity and rely on coal or biomass wood, dung, and vegetation for cooking and heating.²³ While increasing access to electricity or natural gas has resulted in a fuel switch for many Chinese households in urban areas, the lack of adequate infrastructure to supply electricity or natural gas throughout China directly affects the ability of China's citizens to switch from raw fuel to modern energy supplies. In addition, "low household incomes are another obstacle to fuel switching because many families lack the money to purchase appliances to utilize modern energy sources that are available; therefore many households continue to rely on traditional fuels such as

²¹ Bajoria, Jaysgree; Zissis, Carin. 2008. "China's Environmental Crisis", *Council on Foreign Affairs*

²² Bajoria, Jaysgree; Zissis, Carin. 2008.....

²³ Bajoria, Jaysgree; Zissis, Carin. 2008. ...

coal.”²⁴ The effects of environmental protection or lack thereof have had significant consequences.

Around the outskirts of some factories the asthma rate is five percent. It is estimated that 26 percent of all deaths in China are caused by respiratory illnesses. Many people in Beijing and Shanghai get hacking coughs. In rural areas, respiratory disease is one of the main reasons for the increase in death tolls. Air pollution is believed to have significantly reduced crop production. Studies based on satellite imagery and ground-based observation suggest that particles of suspended pollutants scatter sun light over two thirds of eastern China resulting in harvests of rice and winter wheat that may be 5 to 30 percent less than if there was no pollution. Air pollution causes premature births, low-birth weight babies, and depresses lungs functioning in otherwise healthy people. "The number of newborns with birth defects is constantly increasing in both urban and rural areas," Jiang Fan, vice-minister of the NPFPC said at a conference in Beijing. The number of Chinese children with birth defects rose by 40 per cent between 2001 and 2006, according to the National Population and Family Planning Commission. "Around four to six per cent of all children born in China each year have physical defects, including congenital heart disease, cleft palates and water on the brain. Of those, around 30 per cent die and 40 per cent are disabled.”²⁵ Birth defects are directly linked to kinship, the increase of birth defects lead to more infant death which decreases family’s chances of carrying on the family line.

Pollution has also been blamed for China's rising rates of cancer; lung cancer is now the leading cause of death in China. In the last five years the number of deaths from the disease has risen 18.5 percent to 34 per 100,000 people. Widespread deforestation is changing the habitats of disease carrying insects and creating conditions, favorable for the spread of devastating diseases

²⁴ Bajoria, Jaysgree; Zissis, Carin. 2008.....

²⁵ Bajoria, Jaysgree; Zissis, Carin. 2008.....

such as malaria. The diseases present in the undisturbed forest may not constitute a threat as man may not be the prime host, or the vector may live in the higher strata of the forest. But as soon as the preferred host animals disappear as the ecology of the forest is altered, the disease may suddenly break out. For instance mosquitoes or sand-flies which used to feed on primates, rodents and other forest animals find fewer potential animal hosts.

Water

China suffers problems of water shortage and water pollution. Rapid economic growth has significantly increased demand for water in the agricultural, residential, and industrial sectors of China. "Most of China's water is directed toward agriculture 45% of China's total agriculture land is irrigated, accounting for 64% of China's total water use. As demand for water has skyrocketed, so, too have levels of water pollution."²⁶ According to MEP's 2008 annual report, over 70% of the water in three of the seven major river systems the Huai, Songhua and Hai was grade IV or worse. One of the most striking, an investigation conducted by the ministry of Water Resources found that drinking water in 115 out of 118 cities surveyed was polluted. Factories and municipalities dump their untreated waste directly into streams, rivers, and coastal waters. Chinese scientist have predicted by 2020 water shortage may exceed 50 billion m³ more than 10% of the country's total current annual consumption.²⁷

By 2030 the Chinese government expects the country will have exploited its entire available water resource. About one-third of China's population lacks access to clean drinking water. Some 70 percent of the country's rivers and lakes are polluted, with roughly two hundred million tons of sewage and industrial waste pouring into Chinese waterways in 2004. In July 2001, the Huai River, China's heavily used river was the site of an environmental disaster. "Heavy rains flooded the river's tributaries, flushing more than 38 billion gallon of highly polluted water into the Huai."²⁸ The river was thick with garbage, yellow foam, and dead fish.

²⁶ Shalizi, Zmarak. 2006. *Addressing China's Growing Water Shortages and Associated Social and Environmental Consequences*. World Bank Publications

²⁷ Shalizi, Zmarak. 2006.....

²⁸ Economy, Elizabeth. 2010. *The River Runs Black: The Environmental Challenge to China's Future*, Cornell

The Huai River was not the only problem stemming from environmental problems. In 1998 the Yangtze River flooded, killing more than three thousand people, destroying five million homes and inundating fifty two million acres of land. The economic losses were estimated at more than 20 billion dollars.

In 2008 in Yunnan Province villagers in Duqibao were poisoned by an iron rich effluent dumped by a mining company into a local stream. The amount of iron in the stream was over eleven times greater than the acceptable level, and eighty villagers who drank the contained water experienced diarrhea, vomiting, and dizziness. The lack of environmental protection resulted in several effects. During the 1970s China began to increase its environmental protection but because of its primary focus on economic progression reforms did not have as big of an impact as it should have.

Water pollution discharge fee systems are policy mechanisms designed to reduce pollution through the use of economic incentives.²⁹ These systems included a negative economic incentive in the form of a penalty fee which companies had to pay if the pollutants in their waste exceed certain standards. This system forced companies to pay for their pollution.

Deforestation

The impact of deforestation has been mainly in terms of firewood and water scarcity and consequent increase in women's drudgery. In rural areas, firewood is largely (68.5%) consumed of all the energy forms. Of this (12.7%) is purchased, (64.2%) is collected and (23%) is home grown. The availability of firewood and water is another crucial determinant of the quantum of work for women As a result of the gender division of work; it is primarily women who are the major gatherers which is why they are mostly affected.

Rise of the Middle Class

Another driver of environmental change and degradation which is another reason for the

University

²⁹ Jahiel, Abigail. 1997. "The Contradictory Impact of Reform on Environmental Protection in China", *The China Quarterly*

increase of environmental problems in China. “The growing middle class now aspires to own automobiles, live in spacious homes and apartments with comfortable and fashionable furnishings, eat higher up the food chain by switching from grain to meat-centered diets, and increase household energy use by using more appliances, heat, and air conditioning.”³⁰ The luxury goods market in China totaled more than 10 billion dollars and is projected to hit 27 billion in 2015. The Chinese desire for the globalized Western lifestyle had become an increasing widespread phenomenon. The problem with this much consumption is the threat of increasing environmental problems. Many “environmentalists are stating this increase in environmental problems is due to the “environmental Kuznets curve”, which states there is a connection between income levels and environmental clean-up.”³¹ According to this economic theory to justify taking more time to get pollution under control, pollution tends to be high at early stages of national development, but when the basic needs for material goods are met, citizens start to focus on less tangible quality of life issues such as clean air and water.³²

Population Increase

The Communist party took power in 1949, since then the Chinese population has more than doubled. World Bank stated in 2013 that the Chinese population was 1.34 billion and it was projected to reach about 1.5. billion by 2030. Qu Geping, the elder statesman of Chinese environmentalism stated that almost all of China’s environmental problems can be traced to overpopulation. Before the one child policy was put in affect many families had several children. During the Mao Zedong era it was considered being strong numbers meant the country as a whole was strong. The one child- policy was implemented to try to decrease the population growth, but families who live in rural areas are allowed to have more than one child to help maintain the land.

Environmental Divide between Rural and Urban

³⁰ Shapiro, Judith.2012. *China’s Environmental Challenges*, Polity Press

³¹ Shapiro, Judith.2012.....

³² Shapiro, Judith.2012.....

Large cities have always had the problem trying to determine the best method to dispose of their waste. “In China there is the NIMBY-ism of the middle class, which is often heralded as a form of environmental awakening and emerging civil society, while less attention is given to where the harm goes when the community successfully resists.”³³ The middle class has more resources than that of the rural community in terms of voicing their opinions about the environmental degradation. The problem with this is that the clean-up from urban areas causes the areas surrounding those cities to become populated with pollution. In the poorer areas of China, dioxin emissions are often ten times higher than those in the European Union and the mercury levels are dangerously high.

Many Chinese people who are enrolled in the residence card system are subjected to effects of the overwhelming pollution health problems. Many Chinese migrants through the residence card system are able to travel to cities to search for employment. Due to their lack of rights to health care, schooling, or other government services they are forced to live in shelters in the city outskirts. “Sanitation conditions are poor and access to health care restricted. Lacking sewage treatment plants, waste from their communities spills directly into waterways and is a source of serious pollution. These migrants often suffer environmental contamination from indoor coal burning for heat and fuel, unclean water for drinking and washing, and overcrowded and uncomfortable living situations that promote the spread of disease.”³⁴ Although the pollution has affected all those in China this economic divide has affected those living in rural areas and the outskirts of urban areas to suffer more.

There are several rural villages that are referred to as cancer villages which are located near wealthy cities. “Cancer villages in the wealthy East tend to be poor counties near major cities and at the deltas of the Yellow, Yangzi and Pearl Rivers, while inland they are clustered near rivers.”³⁵ Geographer Lee Liu did a study to identify cancer villages and how their location

³³ Shapiro, Judith.2012.....

³⁴ Shapiro, Judith.2012.....

³⁵ Shapiro, Judith.2012.....

was directly related to the villagers' health.

“There seems to be a spatial patter of environmental injustice in the cancer-village belt, for the location of cancer villages the establishment of eco-communities and model environmental cities; however, the cancer villages prove that China's efforts are only partially successful... The rich, some of whom got rich through the polluting factories, live in better environmental conditions, while poor farmers live by the factories and suffer from the pollution on a daily basis.”³⁶

This is a prime example of how economic reforms and divides can cause some parts of China to be more susceptible to pollution problems. In Dapu, a chemical factory is located next to a farm, “a state-backed chemical factory next to a farmer's house dumps wastewater directly into local irrigation pond which turns florescent blue reminiscent of antifreeze, after walking around in the rice paddies, some farmers here have developed unexplained blister on their feet.”³⁷ For several years many have focused on the environmental degradation that occurs in cities but rural areas are effected as well if not more so. “Estimates from state-affiliated researchers say that anywhere between 8% and 20% of China's arable land, some 25 to 60 million acres, may now be contaminated with heavy metals. A loss of even 5% could be disastrous, taking China below the “red line” of 296 million acres of arable land that are currently needed.”³⁸ The loss of viable land has affected rural areas tremendously especially when arable land is their livelihood. Environmental researchers have stated that China's increase in toxicity in the environment can be attributed to two trends, the expansion of polluting businesses in areas that are less populated with cities and a great deal of chemical fertilizers have increased as well. Many times companies are moving to rural areas because they can take advantage of cheaper land and also many urban leaders want those businesses to move out of

³⁶ Shapiro, Judith.2012.....

³⁷ Chin, Josh; Spegele, Brian.2013. “China's Bad Earth”, *The Wall Street Journal*

³⁸ Economy, Elizabeth; Levi, Michael. 2014. *How China's Resource Quest is Changing the World, By All Means Necessary*, Oxford University Press

urban areas because of how heavily dominated they are with people.

Due to the resistance among the government and companies towards environmental regulations, “Chinese companies are unlikely to bring strong environmental practices when they invest abroad. Instead, extractive industries bring with them the business model that has succeeded at home. One element of this is a lack of tradition in environmental impact assessments (EIAs), which are evaluations of the likely and potential environmental implications of a particular development project.”³⁹ EIAs are mandatory for Chinese companies but often times they ignore them. Often time’s Chinese companies take their lack of environmental prudence and apply it in foreign affairs. A prime example of this is the story of the Zhongui Mining Group, the largest privately owned Chinese company operating in sub-Saharan Africa. In 2009, “Zhonhui signed a \$3.6 billion deal with the Zambian government under President Rupiah Banda to develop copper reserves in Zambia.”⁴⁰ Construction began in 2011 but the Chinese company began building the mine without conducting an environmental impact assessment. Although there were efforts made to stop the Chinese company in the end they continued their work and caused several environmental problems in Zambia.

³⁹ Economy, Elizabeth; Levi, Michael. 2014. *How China's Resource Quest is Changing the World By All Means Necessary*, Oxford University Press

⁴⁰ Economy, Elizabeth; Levi, Michael. 2014.

Chapter II

Due to China's history with pollution there was a significant effort made to establish environmental regulations starting in 1971. The steps that China took in enforcing environmental protection can be seen through chronological order, beginning with 1971. Although lacking in enforcement at times this timeline shows the change in views of how China's leaders view environmental regulations and enforcement. In the late 1960s there were small amounts of environmental protests which made Chinese government pay more attention to the rising unrest of the lack of environmental protection.

Timeline of Formation of Environmental Departments

1971: An environmental protection department, the first governmental entity with an explicit and exclusive focus on environmental matters, is established in the State Planning Commission.

1972: A large contingent of Chinese delegates attended the United Nations' Stockholm Conference on the Human Environment. The Chinese delegates after comparing China's pollution statistics with those released by other countries at the conference, realized that China had serious environmental problems and began to undertake the development of an environmental policy for China.

1973: China held the first National Environmental Protection Conference (August 5-20) in Beijing prompted by the United Nations' publication of the Human Environment Declaration. China's first set of environmental guiding principles was formulated as a result of the conference. They were embodied in a 32 character piece of exhortatory sloganeering characteristic of the time. China's State Council enacted its first environmental regulations of the modern era, The Regulation of Environmental Protection and Improvement, which required that industrial facilities be designed, planned, and constructed to enhance water conservation and

recycling and called for the inclusion of water quality protection as a component of the Plan of National Economic and Social Development.⁴¹

1974: Two new environmental administrative offices were formed to manage and coordinate national environmental tasks, The Leading Group of Environmental Protection in the State Council (LGEPC) and the separate office of the LGEPC. The LGEPC was composed of the heads of approximately twenty national departments and was to concentrate on general environmental planning.

1978: China's constitution was amended by the National People's Congress (NPC) in 1978 to add a provision that provides the state protects and improves the living environment and the ecological environment, and prevents and remedies pollution and other public hazards. This provision formed the constitutional foundation for the country's environmental administrative framework.

The first decade of reform (1979-1989) ushered in a vast expansion of environmental protection in the forms of institutions, laws, and policies. The central government had several concerns for the environment and took several measures to try and insure a better environment. These measures included the discharge fee system, and the fee collection system.

1979: The environmental administrative framework was significantly heightened in 1979 with the enactment of the Environmental Protection Law. This law included a chapter on the governmental structure and responsibilities that required all related departments under the State Council. The LGEPC prepared a set of administrative policy instructions for cadres entitled "The Main Points in the Report of Environment Protection Work". These instructions were sent to low level governmental offices in an attempt to eliminate pollution and to protect

⁴¹ McElwee, Charles. 2011. *Environmental Law in China, Managing Risk and Ensuring Compliance*, Oxford University Press

environment.

1982: The office of the LGEPSC merged into the new Ministry of Urban and Rural Construction and Environmental Protection named as the Environmental Protection Bureau, which was then elevated in administrative status.

1983: The second National Environmental Protection Conference was held from December 31, 1983 to January 7, 1984. There were several complaints that were raised during this meeting which led to the administrative changes in 1984.

1984: In May of 1984 the State Council issued a decision on Strengthening Environmental Protection Function that established an Environmental Protection Commission under the State Council (EPCSC). The EPCSC superseded the LGEPSC and took the role of coordinating environmental affairs among the various ministries.

1989: The Standing Committee of the NPC amended and reissued the Environmental Protection Law which added a sense of permanency to China's environmental law structure.

The various committees formed were a sign of progression of how China was beginning to adhere to the growing environmental demands of the country.

A significant event in China that occurred in 1989 was the Tiananmen Square Protest. This protest is commonly known as the June 4th incident, it was a student led demonstration in Beijing which took place in the spring of 1989. This demonstration received broad support from city residents, exposing problems in China's political leadership. On the day of the incident troops with assault rifles and tanks inflicted harm on several unarmed civilians. The Chinese government condemned the protests as a "counter-revolutionary riot". The protest was triggered by the death of former Communist Party General Secretary Hu Yaobang, a liberal reformer. The students who marched called for the government's accountability, freedom of speech, freedom of

the press, and the restoration of worker's control over the industry. Although this demonstration ended in tragedy because of the amount of deaths, this demonstration symbolized a substantial change. This was one of the first incidences where people openly opposed the Chinese government. This demonstration laid the foundation for later protests like environmental protests. Alan Liu states that the immediate effects and the Chinese leader's perception of the protest meet four important elements of a crisis; "a change in the domestic political environment, a threat to important national goals as defined by political leaders, the probability of violence being significantly increased and leaders' perceived short time for response."⁴² This protest forced the Chinese government to publicly adhere to thoughts of the people which is what has become increasingly popular when it comes to trying to highlight environmental problems.

A popular Governmental NGO is the China Environmental Protection Foundation (CEPF) was established by Qu Geping, the first administrator of SEPA. This organization has been prevalent in China's attempt to environmental protection since 1992 at the UN Conference on Environment and Development in Rio de Janeiro, and Brazil. This organization was formed to raise funds for environmental projects. This organization helped significantly with trying to reduce environmental pill ups in various parts in China.

Government-Organized NGOS (GONGOS)

One of the largest GONGOS is the All China Environment Federation, founded in 2005 under the authority of the State Environmental Protection Administration (now Ministry of Environmental Protection). This organization is described as a non-profit national social organization, but from the description below it can be seen that the government is very much involved.

⁴² Liu, Alan. 1989. "Aspects of Beijing Crisis Management", *China's Search for Democracy: The Student and the Mass Movement of 1989*, M.E. Sharpe

“The Federation aims to implement the strategy of sustainable development, achieve the goal of environment and development as set out the by the State and to safeguard the environmental interests of the public and the society. The major tasks are to keep contacts with influential and high profile senior personages, unite a variety of social groups, and play the role of solidarity and coherence; put forward proposals on government environmental decision-making; provide services on environmental laws for the public and the society; enable the public and the society to get access to environmental information, and conduct activities for environmental publicity and education; promote the sound development of China’s environmental NGOs and help them build and obtain their due position in international communities and undertake other work as entrusted by the government and relevant organizations”.

With governmental input there is bound to be problems with fully being able to implement environmental rules efficiently and effectively.

International ENGOS

International NGOs in the past have tried to work in China to help with the environmental degradation, but many have faced several problems doing so. As an international NGO they need to get permission, visas, and find Chinese partners. One of the most effective NGOs is China Development Brief, which is an informational and networking project for foreign development, charitable, and environmental groups. This organization was founded in 1996 but was eventually shut down in 2005 because of visa problems with an English director, Nick Young, whom was accused of conducting unauthorized surveys and forced to leave the country.

Implementation Problems

These various departments and regulations created a higher precedence on environmental protection in China but the Chinese government still had several hurdles to jump over. Issues on enforcement and implementation were still hindrances in the path to more effective environmental protection. Interviews were conducted with local environmental officials in 2001 suggested that the Environmental Protection Bureaus (EPBs) encountered resistance in their initial attempts to collect discharge fees from companies to meet pollution standards. “In the early years of the reforms factory managers excited about their newly granted flexibility to make

fiscal decisions on environmental hazards saw EPB demands that firms spend money on environmental protection as a drain on their enterprises, limited investment funds and on worker bonuses.”⁴³ The managers did not cooperate with the terms of the fee system; they refused to pay the fees or were late in paying their payments. These various forms of resistance made enforcement of fee collection very difficult. “Not only was the economic atmosphere at odds with the goals of environmental clean-up but the organizational weakness environmental agencies also stood in the way.”⁴⁴ The lack of enforcement of environmental protection caused several problems in progressing China’s environmental policies which can be seen in the fee system.

The fee system failed in several ways due to the lack of enforcement and understanding. First, discharge fee rates were set at what economists would term low prices. Thus an incentive to reduce pollution was diminished. China’s discharge fee rate was not set through any economic process of calculation but instead haphazardly and ultimately politically. One senior environmental protection official in Beijing involved in the writing of the regulations, recalled the process; “Fee rates were just randomly set....at the time we thought that if we could even get an economic incentive system in at all when the system as a whole was largely a planned economy. We didn’t really know how to set this kind of economic incentive.”⁴⁵ These attempts at new environmental regulations led to confusion and a lack of productivity.

Fees were set far lower than the costs for this equipment. For example in 1991 cleanup costs for waste water pollution ranged from 0.30 Yuan to 1.00 Yuan per ton of water, depending on the type and concentration of the pollutant. Secondly, the budget constraints for state enterprises have created perverse economic incentives.⁴⁶ “Under the discharge fee the regulations remnant features of the socialist planned economy have allowed firms to request extra funds to

⁴³ Jahiel, Abigail. 1997.....

⁴⁴ Jahiel, Abigail. 1997....

⁴⁵ Jahiel, Abigail. 1997....

⁴⁶ Jahiel, Abigail. 1997....

cover discharge fee costs.”⁴⁷

China experiences what Alexander Thompson describes as the three stages of climate cooperation; the bargaining stage, transition stage, and the implementation stage.⁴⁸ He states that during the implementation stages there are two types of non-compliance that are of concern to the state. The first is non-compliance motivated by opportunism on the part of the government and the second an inadvertent non-compliance due to the lack of implementation by private parties or lack of capacity by the government. Enforcing environmental protection requires time and money. Often times countries do not think environmental protection should be given as much attention as other areas.

Thompson discusses the adaptive movement principles which are designed to test clearly formulated hypotheses about the behavior of an ecosystem being changed by human use. In order for this movement to work it requires a long term commitment and willingness to suffer some short term losses for the sake of gathering information and improving policy in the long run.⁴⁹ The problem with this principle in regards to China is the requirement of a long term commitment. There needs to be more focus and effort put on the environmental issues in China in order for these principles to be affective.

There are times when the Chinese government tries to hold the factories responsible for discarding their waste in an unsafe manner but often times the factories do not adhere to the rules. An example of this is was a case in Rongping, the court ordered a factory to stop infringement against the villagers but the courts did not specify what proper steps need to be taken. Villagers often face the problem of being able to afford to be in litigation with factories or companies because sometimes they are financially unstable.

⁴⁷ Jahiel, Abigail. 1997....

⁴⁸ Thompson, Alexander.2006. “Management Anarchy: The International Politics of Climate Change”

⁴⁹ Thompson, Alexander.2006.....

Environmental lawsuits in China are very hard to win because, if the victims were to win they would not receive any compensation because the victims are usually from lower levels of society. “In environmental disputes, even getting a day in court is a hard- won privilege. Under the Environmental Law, would be plaintiffs have three years from when they became aware of pollution related losses to file a claim”.⁵⁰ Many times judges refuse cases without going through the proper steps to do so.

In early 2014, Li Guixin filed a suit against the Shijiazhuang Municipal Environmental Protection Bureau seeking compensation for the heavy smog that was engulfing the city airspace. Li Guixin states that the reason for this was because “to let every citizen see that amid this haze, we’re the real victims, the environmental protection bureau has to perform its duty to control air pollution according to the law.”⁵¹ Rachel Stern, environmental law expert, stated that most cases like Li Guixin, victims ask for compensation for economic damages rather than trying to seek compensation for their health issues. It is often difficult for plaintiffs to convince the courts to accept their cases, China’s court system is under the control of the Communist Party which means that the judges often refuses to take on cases that might reflect poorly on the government. In Li Guixin’s case he is not only blaming a company for the continuous smog but the government, this alone might hinder progression of this case because it could potentially damage the Chinese people perspective on the government.

⁵⁰ Stern, Rachel. 2013. *Environmental Litigation in China: A Study in Political Ambivalence*, Cambridge University Press

⁵¹ Tiezzi, Shannon. 2014. “Chinese Man Sues Local Government Over Smog”, *The Diplomat*

Chapter III

The Post- Mao Era

In the late 1990s as China began to experience a series of environmental disasters along with rising social unrest, Hu Jintao's government started to launch more environmental protection measures as far as the central authority could handle. Hu Jintao succeeded Jiang Zemin as the CCP's new General Secretary in 2002 and as President of the PRC in 2003. Together with Hu in his rise to power were new Premier Wen Jiabao and seven other men, who formed the expanded nine-person Politburo. This change in leadership led to a willingness to implement new ideas. "Less than four years into the new administration, the Hu-Wen team has already managed to establish its own path and at the same time maintained important continuities from past regimes. Almost immediately after Hu and Wen ascended, they began to distinguish themselves from past leaders by introducing the notion of "putting people first" and the "concept of scientific development."⁵² This new perspective was a tremendous change from the previous political leaders.

These concepts were first raised by Hu when he visited Guangdong during the SARS crisis in April 2003 and were later included in official speeches at the Fourth Plenary Session of the Sixteenth Central Committee of the CCP in 2004. They have since become the foundation for introducing the idea of a "harmonious socialist society."⁵³ Since 1953, the People's Republic of China (PRC) has implemented a series of Five-Year Plans that established the blueprint and targets for national economic development. In a country where the state continues to exert powerful control over much of the economy, the Five-Year Plans are key indicators of the directions and changes in development philosophy.

⁵² Fan, Cindy. 2006. "China's Eleventh Five Year Plan (2006-2010): From "Getting Rich First to Common Prosperity", *Eurasian Geography and Economics*, 47 (6), 708-723

⁵³ Fan, Cindy.....

This began the change in focus of the Chinese political party, which can be seen in the breakdown of the chart in Cindy Fan's article, "China's Eleventh Five Year Plan (2006-2010): From "Getting Rich First to Common Prosperity". (Figure 1.1) China has worked to develop a pathway for its domestic low-carbon energy future, determining how a more environmental approach would fit into other strategic goals, including economic growth, energy security, local environmental concerns, and natural resource development plans. China's Eleventh Five-Year Plan has, prior to and since its formal approval, been described as "revolutionary," "a watershed," and "of turning point significance" suggesting that China's leaders were seriously rethinking their development priorities and strategies."⁵⁴ This suggested a pivotal moment was soon to come when trying to implement environmental change. "Through the 11th Five Year Plan and development of the 12th plan, the Chinese government has put in place a number of policies to improve energy efficiency, encourage diversity of energy sources, establish targets for renewable energy, and establish timelines for reducing carbon emissions."⁵⁵ On March 14, 2006, the Fourth Plenary Session of China's Tenth National People's Congress formally ratified the country's Eleventh Five-Year Plan, for the period 2006 to 2010.

The government devised a variety of methods to improve efficiency in implementing environmental laws. While encouraging enterprises to proactively lower emissions by promoting environmental sustainability, the government had simultaneously resorted to a punitive fiscal policy for the firms producing excessive emissions. For instance, the government taxes the use of coal with high sulfur content at a higher rate. The progressive tax system is to encourage enterprises to use more sustainable energy resources. Enterprises equipped with treatment facilities for emissions and waste products are offered tax breaks and subsidies. Official attempts

⁵⁴ Fan, Cindy. 2006. ...

⁵⁵ Hyland, Lisa; David, Pumphrey, Sarah O. Ladislaw. 2011. "Energy and Environment in the Barack Obama- Hu Jintao Meeting", *Center for Strategic and International Studies*

have also been made to establish a system of emissions trading but it still remains at an experimental stage. The provisions of the eleventh Five-Year Plan stipulate the responsibility of the government to promote the use of sustainable energy resources, such as hydropower, solar power, wind power, natural gas, biomass fuel and methane. Stipulated goals under the plan include the addition of approximately 3,000 megawatts of hydropower each year, wind power was also being explored. Most wind farms are to be located along the coasts and in the northern and western regions. These farms can produce energy that will be used in local villages and will later be integrated to grid-type power structures.

Table 1. Selected Targets of the Eleventh Five-Year Plan*

Indicator	Unit	Year		Five-year change	Expected/ restricted
		2005	2010		
Economic growth					
Gross domestic product	Trillion yuan	18.2	26.1	(7.5)	Expected
GDP per capita	Yuan	13,985	19,270	(6.6)	Expected
Natural environment					
Reduction of energy consumption per unit of GDP	Percent	-	-	-20	Restricted
Reduction of water consumption per unit of industrial value added	Percent	-	-	-30	Restricted
Reduction of emission of major pollutants	Percent	-	-	-10	Restricted
Forest cover	Percent	18.2	20.0	1.8	Restricted
Human society					
Population	Million	1,308	1,360	(0.8)	Restricted
Urbanization	Percent	43	47	4	Expected
Urban employment increase	Million	-	-	45	Expected
Transfer of rural labor	Million	-	-	45	Expected
Urban unemployment	Percent	4.2	5.0	0.8	Expected
Urban disposable income per capita	Yuan	10,493	13,390	(4.9)	Expected
Rural net income per capita	Yuan	3,255	4,150	(4.9)	Expected
Urban population with retirement insurance	Million	174	223	49	Restricted
Cooperative health care in the countryside	Percent	23.5	>80.0	>56.5	Restricted
Average educational attainment	Years	8.5	9.0	0.5	Expected

*All economic data are in constant 2005 prices. Numbers in parentheses refer to average annual growth rates. Sources: Compiled by the author from Editorial Group, 2006, pp. 9–10.

In mid-June of 2013 the Chinese government unveiled a series of reforms to restrict air pollution. It started the country's first carbon market, made prosecuting environmental crimes easier and made local officials more accountable for air quality problems in the area. The ruling Communist Party said it would put more emphasis on environmental protection when assessing officials and would also hold local authorities directly responsible for pollution.

During the Mao era leaders asserted that they served only one interest, that of the Chinese masses.⁵⁶ The job of the government was to repress recalcitrant forces and educate the people about their interest. Governance was not about reconciling differences, it was about eliminating them. Since Mao, China's society and bureaucracy have fragmented making it harder for Beijing to make decisions and implement policies. To deal with the challenge, the Chinese government, particularly since "Deng has developed an authoritarian yet responsive system that explicitly balances major geographic, functional, factional, and policy interests through representation at the highest levels of the CCP."⁵⁷ China's rulers now try to resolve issues in a fair and beneficial manner. Today, almost all Chinese leaders openly speak about the importance of public opinion, with the goal being to preempt problems. This change in responsiveness stems in large part from its recognition that as local governments, non-state organization, and individuals all grow more powerful.⁵⁸

Environmental Protests

There have been several cases in regards to environmental protests in China, especially the case involving the Dachuan village in Gansu province, northwest China. There had been a great deal of protests against a fertilizer factory. The village and the factory are separated by only a paved road and railroad. Most of Dachuan's residents earn their living from agriculture. The factory was run by the provincial government and produced urea. The factory opened its doors in 1971; it discharged its waste into Dachuan's fields before entering the Yellow River. This caused

⁵⁶ Lampton, David.....

⁵⁷ Lampton, David.....

⁵⁸ Lampton, David.....

a great amount of protests, the village made the factory build a pipeline to deliver clean water to six of the villages. The factory claimed it invested 16 million Yuan in pollution control, but the river still remained contaminated. Although the river was still polluted the government took no legal action against the factory.

Due to the lengthy and expensive process to take legal action against the factory villagers gathered and turned to social protest. In one protest the villagers asked the security guards to tell factory officials to come out with their wives and children to drink the water the villagers had brought from the contaminated stream. The protestors promised the people in the factory that they would never come back if they drank the water in front of the crowd. The factory's party secretary and general manager refused to come out so a group of young people from Dachuan drove ten tractors up to the factory each carrying a full load of contaminated water from the stream. After ten days of protests the factory agreed to provide Dachuan with 150,000 Yuan to build a new bridge and repair a pump to provide tap water to more than 600 people in the village.

Jun Jing describes the Dachuan environmental protests as going through four stages. "The first, the villagers were not acutely aware of how harmful the contamination was, although the factory's discharge burned fuel in the water gave the villagers some insight how detrimental it was to their health. The second, Dachuan's protest movements coincided with the breakup of agricultural communes in 1980-1981 when farmland was distributed to individual households to manage. "A stretch of cultivated fields along the polluted stream was turned over to households whose members numbered more than 100 people."⁵⁹ Villagers working those fields demanded action to solve the problem. The cadres led the villagers in a blockade of the factory gate, preventing the factory's trucks from making deliveries. The third phase began in the mid-1980s; the county government restricted rural couples from having more than two children and imposed a three year interval between the first and second births. The fourth phase, "the liberalization of the Chinese economy also had a direct impact on Dachuan's protests which is seen from the mid-

⁵⁹ Jing, Jun.2010 "Environmental Protest in China" in *Chinese Society: Change, Conflict, and Resistance*, Routledge Press

1980s to the 1990s. During this period Dachuan demonstrated against the factory every year in protests ranging from small rallies to major blockades. “The four phases of Dachuan’s protests represent a cognitive revolution. He refers to the process whereby the villagers understanding of water pollution advanced at several critical points.”⁶⁰

Many Chinese villages think of lineage in a high regard, which was one of the main reasons there were so many protests in Dachuan. More than 80 percent of Dachuan’s households are surname Kong and trace their ancestry to Confucius. In the early 1950s the Kongs were organized as a formal lineage.⁶¹ “They maintained ancestral hall, held an annual ceremony of ancestor worship and used the incomes from more than 200 mu of land to finance rituals, local, defense and primary school.”⁶² The contamination of the river threatened Kong’s lineage. The village’s doctors told the villagers drinking from the Yellow River could cause miscarriages and still births, mental retardation and stunt growth for children. The village’s party boss who was the most powerful man in Dachuan had no biological children; his wife had several miscarriages because of the contamination in the water. This was one of the main reasons why he was very much involved in the environmental protests.

Jun Jing does further research on another rural village, Gaoyuan. This case was the first confirmed protest movement against officials in charge of local populating resettlement for the Three Gorge Dam project on the Yangzi River. “The Gaoyuan movement began with accusations against local official on three points; first, the petitioners blamed county officials for not distributing the full financial compensation that the central government already allocated for local people. The second, township officials were accused of embezzling resettlement funds, and third, the petitioners claimed that corruption among township officials and the cadres were responsible for a failed land reclamation project. The third point was dealing with the environmental aspects of the Gaoyang petition movements.”⁶³ Similar to the Dachuan village

⁶⁰ Jing, Jun.2010. “Environmental Protests in Rural China”,.....

⁶¹ Jing, Jun.2010. “Environmental Protests in Rural China”,.....

⁶² Jing, Jun.2010. “Environmental Protests in Rural China”,.....

⁶³ Jing, Jun.2010. “Environmental Protests in Rural China”, *Chinese Society: Change, Conflict, and Residence*

there was a great deal of environmental protests to ensure safety of the villagers in Gaoyang.

Early in 2003, an environmental protest against hydro-electric power project was planned in Tang Liuhu in Sichuan Province. The anti-Yang Liuhu dam campaign witnessed the starting point of similar movements protesting against hydro-power construction in south western provinces. This protest was a prime example of an emergence of environmental activism. In 2005 an open letter was signed by 56 ENGOs to support the Ministry of Environmental Protection (MEPS) sanction of 30 large infrastructure projects across the country due to their not having a proper environmental impact assessment. This event was organized and concluded in three days with the news being reported in a large number of national newspapers on the internet. This action raised the public's environmental awareness and produced impact on environmental policies.

Alex Wang describes in his article the some of the legal actions villagers take when trying to receive compensation for their loses due to the increase of pollution. In 1999 Mr. Zhang Changjian and some villagers tried to receive compensation through a letter writing campaign to various government agencies.

“In 2001 Mr. Zhang organized a formal petition that he sent to China's State Environmental Protection Administration (SEPA). The actions of the villagers drew attention from national media and, ultimately, led to SEPA designating the plant one of the 55 worst polluters in China. In 2002, with the assistance of the Beijing-based Center for Legal Assistance to Pollution Victims (CLAPV), 10 3 Mr. Zhang and four other villagers, acting as class representatives filed a class action lawsuit in the Ningde Municipality Intermediate People's Court that included more than 1,700 plaintiffs. Plaintiffs requested the following relief:

1. A court order for defendant to immediately stop the infringement,
2. 10,331,440 yuan (US\$1.3 million) in compensation for losses to crops, bamboo, timber, etc,
3. 3,203,200 yuan (US\$413,316) in emotional damages, and
4. A court order for defendant to clean up waste within the plant and in the back mountains.”⁶⁴

The villagers were successful in winning their case, the judge ordered for the villagers to

⁶⁴ Wang, Alex.2007. “The Role of Law in Environmental Protection in China: Recent Developments”, *Vermont Journal of Environmental Law*, Vol.8.

receive about \$88,000 for their losses and to clean up the waste from the factories. This win was considered very victorious although the compensations were not that large.

One of the most significant environmental protests in China was the one about the Tiger Leaping Gorge Dam. In 2004 in the Xinhua report stated that there was a plan declaring “hydropower stations forming an eight –dam cascade starting at the Tiger Leaping Gorge would be built on the middle reaches of the Jinsha River. There were two proposals for the dam elevation one at 2,018 meters and one at 2,030 meters. According to the plans introduction, as well as generating electricity, Tiger Leaping Gorge would be flooded 200 kilometers upstream. It would forcibly displace 100,000 people.”⁶⁵ The potential of the this dam created several activist groups. One man who spearheaded the opposition to the dam was Xiao Liangzhang. He was an anthropologist and an editor at a Beijing based publishing house. He helped publish an article that was put on the front page of Southern Weekend. This article focused attention on the construction of the dam, after this article was published Chinese and international media began to cover the story. “The article quoted environmentalists who stated that the Tiger Leaping Gorge Dam could kill several species.”⁶⁶ The Naxi ethnic group who lived near where the dam would be built would have to move because of the potential of their houses and land being destroyed. In January of 2005 Xiao Liangzhong died from cardiac arrest, he was only 32 years old. His death caused an uproar against the dam project. Villagers wrote poems and sang and dance at public gatherings. The protest became very passionate on March 21, 2006 when an incident at Xiao Liangzhong’s house occurred. Several women were at Xiao Liangzhong’s house when they found out that seven people from the hydropower station were taking measurements. It was stated that it looked like they were going to start rebuilding the dam, they were doing a preliminary investigation for the dam design. The villagers kidnapped the seven surveyors and held them captive. They surrounded the government building in Jinjiang town, the number of

⁶⁵ Liu, Jiangiang. 2013. “Defending Tiger Leaping Gorge”, *China and the Environment: The Green Revolution*, Zed Books

⁶⁶ Liu, Jiangiang. 2013. “Defending Tiger Leaping Gorge”.....

people surrounding the building amounted to about 10,000. On March 23rd the provincial government published a notice stating that if people were opposed to the dam and the it would not be built. Although at first many villagers did not believe the government from past experiences, the unofficial local leader was able to persuade them that this was true and that they should go home before there was any bloodshed. This was a pivotal moment in environmental activism in China because of the magnitude that was achieved.

Wen Jiabao

The new protests and regulations had begun to change environmental protection for the better. China enacted the Cleaner Production Promotion Law, which established demonstration programs for pollution regulation in ten major cities. On May 8, 2007 Premier Wen Jiabao made a speech stating that the current macro-control policy must focus on energy conservation and emission reduction in order to develop the economy while protecting the environment. The Chinese government set a target of reducing energy consumption for 10,000 Yuan (1,298 U.S. dollars) of GDP by 20 percent by 2010 while pollutant discharge should drop by 10 percent.

In Premier Wen Jiabao's speech he makes several key points.

“To curb excessive growth of the sectors that consumer too much energy and cause serious pollution, China must tighten land use and credit supply and set stricter market access and environmental standards for new projects amid efforts to rein in the rapid expansion of energy gorging industries including power, steel, oil, refinery, chemicals, construction, materials, and metal. Restrictions should be imposed on exports in these sectors as soon as possible. We will continue to curb the energy guzzlers by further adjusting exports rebates, levying more exports tariff, and reducing exports quotas. China will cancel preferential policies on the industries like lower tax, electricity, and land costs. Outmoded production methods must be eliminated at a faster pace and how this policy is implemented by local government and enterprises will be open to this public and subject to social supervision... The ten nationwide energy saving programs such as developing oil alternatives, upgrading coal fired boilers and saving energy indoors, will save China 240 million tons of coal equivalent during the 2006-1010 period, including 50 million tons this year.”⁶⁷

⁶⁷ Chow, Gregory. 2008. “China's Energy and Environmental Problems and Policies”, *Asia Pacific Journal of Accounting and Economics*

Premier Wen Jiabao highlights three things, restricting the quantities of outputs, especially those that are environmentally polluting and high energy consuming, by tightening land use and credit supply. The second, setting environmental standards for production, especially in new projects, and thirdly, improving method of production to make environmentally more stable.⁶⁸

On March 5th 2011 Wen Jiabao presented his “government work report” during China’s annual parliamentary session in Beijing, revealing the key goals of the country’s 12th fifth year plan. These goals included to cut energy intensity by 16% and carbon intensity by 17% by the end of 2015. “This fifth year plan also calls for the current rapid pace of growth to be slowed substantially, from 11.2% average of 2006-2010, to 7% for the upcoming five year plan period. It aims to deliver more sustainable, energy efficient growth through an array of interlocking targets and policies.”⁶⁹

During the time period from when Premier Wen Jiabao made his speech to present China has set up a system for monitoring the discharge of pollutants but it is far from perfect because it relies on local government officials to implement the system. In order to try to reduce the amount of sulfur dioxide emitted from the burning of coal in the factories, the Chinese government has imposed heavy penalties to such emissions and encouraged the building of equipment to capture sulfur dioxide.

Most important, the Chinese people are voting with their feet. Almost two-thirds of the country’s wealthy those with assets of \$1.6 million or more have left or plan to leave the country, with the environment one of their most frequently cited reasons, according to the Hurun Report, a Shanghai-based wealth research firm. Those who can’t leave are taking to the streets: The environment has surpassed land expropriation as the leading inspiration for the more than 180,000 popular protests each year.

Economic incentives are also being used to try to solve the environmental problems, to

⁶⁸ Chow, Gregory. 2008.....

⁶⁹ Chow, Gregory. 2008.....

reduce the use of coal and encourage a switch to cleaner burning fuels; the government has introduced a tax on high sulfur coals. The Chinese government will advance reforms in the pricing of natural gas, water and other resources, and raise the tax on pollutant discharges.

Policies for reducing the emission of CO₂ per are still under negotiation among nations. A recent expression of China's policy of limited involvement in the prevention of global warming is a statement of President Hu Jintao on Thursday June 7, 2007, during the G8 meetings in Germany stated involvement called for upholding the principle of "common but differentiated responsibilities" for developing countries in tackling climate change. "We should work together to make sure the international community upholds the goals and framework established in the United Nations Framework Convention on Climate Change and its Kyoto Protocol in 1997 and the principle of common but differentiated responsibilities". While developing countries should also carry out "active, practical and effective cooperation. Considering both historical responsibility and current capability, developed countries should take the lead in reducing carbon emission and help developing countries ease and adapt to climate change. For developing countries, achieving economic growth and improving the lives of our people are top priorities. At the same time, we also need to make every effort to pursue sustainable development in accordance with our national conditions."⁷⁰ This is the consistent quarrel that China has with itself.

China regards the creation of clean and renewable energy as an important national policy, and is developing hydropower, solar power, wind power, natural gas, biomass fuel and methane under its 11th Five-Year Plan. Current efforts to offset coal consumption include the development of natural gas and coal-bed methane infrastructure, increasing the number of combined heat and power plants, adding approximately 3,000 megawatts (MW) of hydropower annually, and developing renewable energy resources such as wind and photovoltaic for electricity generation.

⁷⁰ Yang, Fan; Yang, Ming. 2012. *Negotiation in Decentralization: Case Study of China's Carbon Trading in the Power Sector*, Springer

For China's electricity generation, renewable sources of energy (including hydroelectricity) accounted for 18.6% in 2001, is second to coal. With assistance from the United Nations and the United States, China hopes to embark on a multi-million dollar renewable energy strategy to combat pollution. Wind resources are concentrated in the northern and western regions of China, as well as along the coast, and are suitable for both rural village electrification and large-scale, grid-connected electricity production. The highest wind potential in China lies along the coast and the offshore islands, in or near many of the major population centers. The next highest wind potential region covers Inner Mongolia and the northern Gansu Province, both of which are home to numerous villages with no access at present to grid-based electricity.

Current utilization of solar energy includes small-scale uses, such as household consumption, television relays and communications, but it is increasing steadily, especially in the number of solar kitchen ranges to substitute for the use of coal. While solar and wind power provide significant renewable energy potential, China's growth in renewable energy in the next decade will be dominated by hydropower, particularly with completion of the 18.2-gigawatt Three Gorges Dam project in 2009. Although the Three Gorges Dam is seen as both an important source of energy for China's growing electricity consumption needs and a means of taming the Yangtze River, notorious for its disastrous floods, the controversial dam also could prove to be an environmental disaster. Thus far, few attempts have been made to address concerns regarding the accumulation of toxic materials and other pollutants from industrial sites that will be inundated after construction of the dam. Other social costs of the dam and the use of hydro-power in general include displacement of people and impact on fisheries.

By 2025, the share of nuclear power used for China's electricity generation is expected to increase to 4% from the little over than 1% currently. The use of nuclear power can be considered a very promising alternative energy source if the problem of disposing its waste can be properly handled. These environmental regulations became increasingly more abundant with

the help of environmental activists.

Neighboring Countries' Environmental Concerns

China's neighbors, including Japan and South Korea, have also expressed concern over the acid rain and smog affecting their native populations. In May 2013, government officials of the three countries added air pollution and climate change to a list of diplomatic issues for the reign to solve. "The damage has also affected China's economic prospects as it continues to pursue resources and pump investment into other countries. Its close economic partners, particularly in the developing world, face environmental burdens attached with doing business with China."⁷¹

Environmental Activism

There have been three activists that have been heavily entrenched in environmental activism. The first, Tang Xiyuan is known by many in China to be a spiritual and philosophical leader of the environmental movement. Tang has had a tremendous impact on the ideas and thinking of environmental NGO leaders in China. His love for nature began after the death of his wife; he has often stated that nature saved him during that time.⁷² Tang established a green camp in 1996 with his second wife. His green camp traveled to southeast Tibet to protect the primitive forests. He continues to write and publish articles on China's environment.

He Bochuan is the author of *China on the Edge*, this book was considered very controversial and was halted a year after it was released. He often wrote about issues such as waste, lack of innovation, and ineffective use of capital which compounds environmental damage.⁷³ He was quoted as saying economic growth is supposed to solve the problem of poverty but it causes so much environmental destruction that poverty continues and development is undermined, it is a vicious circle.

Dai Qing wrote a book *Yangtze! Yangtze!* this was quickly acclaimed in the West and

⁷¹ Xu, Beina.2014. "China's Environmental Crisis", *Council on Foreign Relations*

⁷² Economy, Elizabeth. 2010.*The River Runs Black: The Environmental Challenge to China's Future*, Cornell University

⁷³ Economy, Elizabeth. 2010.....

banned within China for its evidence opposing construction of the Three Gorges Dam. The book is a critique of the lack of political openness in the environmental assessment process of the dam.⁷⁴ These three activists represent the intellectual roots of the environmental movement in China.

The media has also helped in promoting more information about the environmental problems in China. In recent years many media personalities and journalists have assumed leadership role in environmental education. “Wang Yongchen, the director of Green Earth Volunteers was perhaps the first radio host to explore environmental issues, using her talk show to raise issues such as the Tibetan antelope.”⁷⁵ China’s mainstream media criticized The Three Gorge Dam heavily and the Chinese publically voiced opposition on internet websites. Chinese television is also playing a critical role in environmental protection efforts by investigating and protesting environmental crimes. One of the most popular television programs is Focus. This show was modeled after the U.S. news program 60 Minute, Focus went on the air in 1994 as an outgrowth of another trial investigative program, Oriental Horizon. In a 2007 CCN survey, Focus was rated the second most watched program in the country. An example of the media helping the public know more about the environment is the case about battery recycling.⁷⁶ In one case, Geng Haying, a young doctor from Dailan first became interested in the environment after viewing a television program on battery recycling. This shows the impact that the media can have on the Chinese people in relations to environmental protection.

Although the government is very clear on economic prosperity there has been several attempts to create environmental policies and strategies. Elizabeth Economy states that the Chinese government had developed a 5 part strategy to address environmental problems. These strategies were; policy guidance from the center, devolution of power to local governments, cooperation with the international community, the development of grassroots environmentalism,

⁷⁴ Economy, Elizabeth. 2010....

⁷⁵ Economy, Elizabeth. 2010.....

⁷⁶ Economy, Elizabeth. 2010....

and the enhancement of the legal system. The core agencies behind China's environmental Protection and National Resources Committee, the China's State Environmental Protection (SEPA) and the judiciary. Over the past decade or so there has been a significant increase in both the skill level and capacity of the agencies staffs. There is a growing core of bright and capable people who are committed to seeking out new and creative ways to integrate economic development with environmental protection. Due to increasing amount of hurdles the Chinese government has put forth make it difficult for these various people to help.

A second strategy of the Chinese leadership since about 1989 has been to devolve authority for environmental protection to the local level. The wealthy regions with proactive leaders tend to fare well. Poorer regions continue to see their environment deteriorate. Poorer areas cannot rely on assistance from the center and are without sufficient local funds to invest. Marc Galanter in this article he explains the results of trial court litigation. He discusses the legal system and how it limits some and provides more possibilities for other. He discusses two parties, one shotters and repeat players. One shotters are people who have not been through the legal process before and do not have that many resources or funds. Repeat players usually large companies have an abundant amount of resources and have been through the legal process before.⁷⁷ People living in rural area would often times be described as one shotters because of their lack of resources and knowledge. In addition, the central government closely monitors all World Bank activities in order to ensure that money does not flow to poorer regions with a higher probability of default on their loans Local officials in poorer areas often put pressure on environmental protection bureau to limit or even ignore the fees they attempt to collect or fines they attempt to impose on polluting enterprises for fear of impeding on economic growth or increasing unemployment.

A third approach is China's plan to improve its overall environment is to receive aid from the international community. The international NGOs have become increasingly active in China.

⁷⁷ Galanter, Marc. 1974. "Why the Halves Come out Ahead; Speculations on the Limits of Legal Change", *Law & Society Review*

Organizations like Environmental Defense and the World Wildlife fund have projects in China to introduce new policy approaches to environmental protection. China has opened the door to the involvement of NGOs and the media in environmental protection. “Simultaneously the government is very careful to monitor the work of these NGOs in order to ensure that environmentalism does not evolve into a push for broader political reform”.⁷⁸ Lastly, China’s legal system “has been criticized for its lack of transparency, ill-defined laws, and weak enforcement.”⁷⁹ Over the past decade the government has made great strides on the legislative side. China’s environmental law makers have demonstrated increasing sophistication in their understanding of how to negotiate and draft a law that really does benefit the environment. Elizabeth Economy’s description of the 5 part strategy shows China’s unwillingness to use more of its resources for environmental protection.

Economy’s 5 part strategy overlaps with China’s continuous but often time failed attempts of the 5 year plan. China has gone through many 5 year plans. The most recent one was in 2011 which was the 12th five year plan. On March 14th 2011 China officially adopted its 12th 5 year plan. It is a plan that spans from 2011 to 2015 and its green targets will shape the country’s action on the environment over the next five year.⁸⁰ The plan’s key environmental targets are to cut energy intensity, reduce pollution, water intensity, and boost forest. Investment in environmental protection is expected to exceed 3 trillion Yuan over the 5 year period. This plan mandates significant investment in public transportation in order to achieve goals. China’s strategic challenge is to get onto a more sustainable development path, while meeting public expectations of improved living standards and employment. “The current development and model is exhausted for a number of familiar reasons; it is still too inefficient, too wasteful of energy and natural resources.”⁸¹ One of the biggest differences is that of scale and the difficulties

⁷⁸ Economy, Elizabeth. 2009. “China’s Environmental Challenge: Political, Social and Economic Implications” *Council on Foreign Relations*

⁷⁹ Economy, Elizabeth. 2009.....

⁸⁰ Boyd, Olivia; Copsey, Tan. 2011. “What’s in the Five Year Plan” *China’s Green Revolution Energy Environment and the 12th Year Plan*

⁸¹ Boyd, Olivia; Copsey, Tan. 2011.

of a one size fits all set of measures across a wide spectrum of development stages. While one part of the country is trying to move up the value chain, other, poorer parts are still eager to embrace the old industrial models to raise local living standards and to create jobs in less developed regions. This overall makes targets for efficiency and environmental public goods harder to meet.

The 12th 5 year plan is the first for which the theme will be green development. The green development strategy has six key aspects, actively responding to climate change, strengthening conservation and management of resources, developing the circular economy, enhancing environmental protection, promotion ecological protection and restoration and strengthening systems for water management. The points made in the five year plan have often been commented on by President Xi Jinping.

Xi Jinping

It has often been stated that Xi Jinping has a different style from his predecessor. “There has been much speculation about who is a reformer, conservative or hard-liner and what the policy preference of the new leadership will be.”⁸² When Xi Jinping first came to power he began to crackdown on corruption. “Chinese officials have made lots of anti-corruption noise over the last few years, even as graft has spread like a cancer through society, but Mr. Xi’s anti-corruption rhetoric is more dire and aggressive.”⁸³ This crackdown shows a different approach from Xi Jinping’s predecessors. In 2013 China’s new party and state leadership specified its domestic and foreign policies in the content of Xi Jinping’s vision of the Chinese Dream. With regard to social issues, the leadership in early 2013 adopted a program of reducing social inequality in order to reinforce social stability.

President Xi Jinping took a pledge on May24th 2013 that China will not sacrifice the environment for temporary economic growth, calling for all-round efforts to conserve resources and curb pollution. He also stated that China will have to carefully balance economic

⁸² Bishop, Bill.2012. “Welcome to the Xi Jinping Era”, *The New York Times*

⁸³ Bishop, Bill.2012....

development and environmental protection.

"We have to understand that to protect the environment is to preserve our productivity and to improve the environment is to develop our productivity. Such concepts should be deeply rooted," Xi said. We should be fully aware of the urgency and difficulty of protecting the environment and reducing pollution as well as the significance and necessity of improving the environment. We should take the responsibility for the sake of our people and our children. The government should set and strictly observe an ecological "red line" which requires all regions to optimize, prioritize, restrict or prohibit their industrial development according to their defined nature. The concept of the ecological "red line" should be firmly established. On issues of ecological and environmental protection, people should not cross the line or they will get punished. Efforts should be made to use resources more economically and promote ways to dramatically cut the consumption of energy, water and land, he said. A sound environment is the basic foundation for the sustainable development of humans and society...our environmental protection and rehabilitation efforts should focus on solving obvious issues that harm people's health."⁸⁴

In addition, Xi called for comprehensive efforts to prevent and curb pollution, urging focus on areas surrounding rivers and lakes as well as major air-polluting industries.

Elizabeth Economy stated "China's new leaders, including President Xi Jinping, haven't embraced environmental protection by choice. They've been compelled by a new political reality: an informed Chinese public."⁸⁵ From 2011 to 2012 American Embassy officials in Beijing measured the true levels of hazardous pollutants in the capital. Shortly after that, the Chinese were demanding that their own government provide similar data. Overall, environmental degradation and pollution are estimated by the Chinese Academy of Environmental Planning to cost the \$9.3. Trillion economy the equivalent of 3.5.percent of gross domestic product annually.

Xi Jinping also spoke about the corruption problem in China. In the past China has often experienced problems with corruption when implementing environmental regulations. "Xi Jinping, on taking office as Communist Party general secretary in November 2012, warned that if the Party could not rid the country of endemic corruption, it would lead to the death of not only

⁸⁴ Ningzhu, Zhu. 2013, "President Xi Jinping Pledges not to Sacrifice Environment", *www.gov.cn*

⁸⁵ Economy, Elizabeth. 2014. "China Wakes Up to Its Environmental Catastrophe", *Bloomberg Business Week, Global Economics*

the Party but perhaps also the Chinese state.”⁸⁶The Chinese University of Hong Kong conducted a study that showed that within China, resource abundance like oil, natural gas, coal breed corruption. A monumental problem with corruption in China is what a senior oil official in Mozambique claimed that when the Chinese seek extralegal options they are rebuffed, and that when China occasionally presses for new rules they get the message; “Go back and refresh”. Although the Chinese government has progressed in various ways several governmental officials are still stagnant in a traditional mindset.

Elizabeth Economy suggests that using China’s economy to help environmental protection can be presented in three scenarios. In the first scenario, with the continuous growth of China’s economy it can produce greater investment in environmental protection at both local and national levels. “In this first scenario, China’s most vibrant cities such as Shanghai and Dalian serve as genuine models for other coastal and inland cities interested in attracting greater foreign investment and recognition for their livability.”⁸⁷ With the increase in urbanization in China increases the satellite cities replicate better environmental practices of major urban centers. Economy thinks that environmental protection can become more prevalent in China if villages and smaller cities emulate larger cities. In laymen terms environmental protection would become more common smaller cities followed in larger cities footsteps.

The second scenario, “the use of automobiles, for example, is not matched by the rapid deployment of alternative energy vehicles. Automobile use increases dramatically as expected, and low-cost, low-end cars that do not employ the most advanced technologies are favored.”⁸⁸ Many wealthier Chinese purchase luxury cars rather than those in Japan and Europe who purchase fuel efficient and compact cars. China needs to develop an industry that both meet the environmental goals and that of the wealthy.

⁸⁶ Economy, Elizabeth; Levi, Michael. 2014. *How China’s Resource Quest is Changing the World, By All Means Necessary*, Oxford University Press

⁸⁷ Economy, Elizabeth. 2010. *The River Runs Black: The Environmental Challenge to China’s Future Economy*, Cornell University

⁸⁸ Economy, Elizabeth. 2010. *The River Runs Black: The Environmental Challenge to China’s Future*

Third scenario, many local officials favor economic development rather than environmental protections laws. China's leadership has to find a balance between being able to sustain economic progression but also maintain environmental protection. The two focal points need to be intertwined with one another.

Conclusion

China has witnessed an increase demand for more environmental regulations in recent years. China was once a country which was strictly focused on economic gains and considered environmental protection to pale in comparison to its economy. China has made several strides by implementing environmental laws and reforms through the change in leadership. During the Mao Zedong and Deng Xiapoing era the primary focus was growth by any means necessary and during the Xi Jinping era environmental protection has assumed high priority from China's focus.

Although China has made several attempts to make environmental regulations more in tuned with economic progression there are still various obstacles that need to be overcome. Economic progression has been such a main staple on China's itinerary it still remains to be seen if China can relinquish the reins on economic progression slightly and invest in environmental laws and enforcement. In order for future leaders of China to be impactful in terms of environmental protection three things to need to be monitored. The first, local leaders must be held accountable for the neglect of environmental protection. In the past China's leaders have forgone monitoring local leaders due to the lack of concern for protecting the environment and the people. The second, factories need to be held responsible as well, in the past these factories have been given small fines and allowed to return to disposing their waste improperly. Third, Chinese leaders must continuously consider environmental protection to be a priority. More laws and governmental groups need to be specifically designated to monitoring the environmental impacts. These three preliminary steps are the beginnings of what would make China a more environmentally responsive country.

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